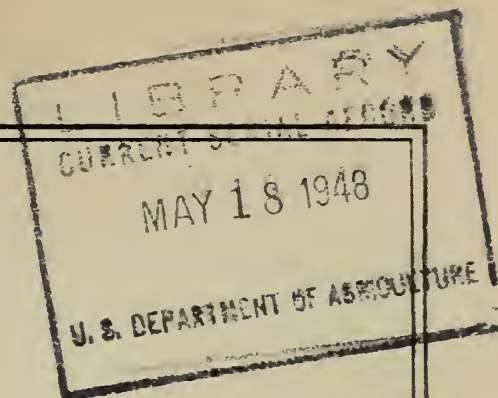


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✓ WHOLESALE BUYERS' ATTITUDES  
TOWARD CITRUS JUICES ✓

By  
HARRY C. HENSLEY  
and  
ANNE L. GESSNER ✓

1076  
Preliminary Report of a study made under the Research  
and Marketing Act of 1946 Project "Merchandising  
Products Processed by Horticultural Cooperatives"

COOPERATIVE RESEARCH AND SERVICE DIVISION  
FARM CREDIT ADMINISTRATION  
UNITED STATES DEPARTMENT OF AGRICULTURE  
WASHINGTON, D. C.

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## Summary

This report tells in part what buyers are looking for in citrus juices. It deals specifically with answers to five questions received from more than 2,000 wholesale-grocer and chain-store buyers as a part of a longer questionnaire.

The questions, in brief, were concerned with:

- (1) factors of quality looked for in buying citrus juices;
- (2) proportion of citrus juice purchases in 1946-47 packed under buyer's and packer's labels; (3) juice purchasing methods;
- (4) preference for U. S. Department of Agriculture continuous inspection (continuous Government inspection at the packer's plant as differentiated from Government inspection of samples); and (5) movement of can sizes.

In answer to the first question considered in this report, buyers are guided largely by taste and sight in the quality factors which they look for in purchasing citrus juices. The principal factors of quality which influence buyers are taste (flavor) and color in the order named. Taste (flavor) was named uniformly first in order of preference by each type of buyer in each of the four volume classifications. Color was mentioned second in order of preference by each type of buyer in each volume classification.

Replies to the second question showed that packers received good distribution under their own labels in the 1946-47 season both in the chain and nonchain groups with about equal proportions of the canned citrus juices moving under buyer's labels and packer's labels. Fifty-two percent of the canned citrus juices purchased in the 1946-47 season by six major chains was distributed under buyer's labels. These chains reported purchases during that season of 11.7 million cases.

Summarizing the responses to the third question, buyers did not to any great extent purchase solely on the basis of U. S. grades, but they did use U. S. grades in combination with other methods in specifying the product desired. A combination of packer's sample and U. S. grade was the method of purchasing most frequently used by buyers. Thirty-eight percent of all types of buyers used this method compared to 24 percent depending on packer's sample alone, 14 percent relying solely on U. S. grades, and 6 percent on buyer's specification, while various other combinations were used to a lesser extent. Buyers purchasing solely by U. S. grades were mostly wholesale grocers purchasing less than 5,000 cases located chiefly in the Atlantic Coastal areas.

From the fourth inquiry, it was determined that buyer attitudes toward U. S. Department of Agriculture continuous inspection are favorable. About two-thirds of the buyers indicated they had favored products processed in plants having U.S.D.A. continuous inspection. The favorable

response was comparatively uniform from every geographic area except the Pacific where it fell to slightly less than one-half. It should be emphasized that when buyers indicated that they had not favored products purchased in plants having U.S.D.A. continuous inspection, this is not to be interpreted as being unfavorable. It is assumed, from the way the question was phrased, that these buyers would just as readily purchase products from plants not having continuous inspection as from those that have. Assurance of quality and protection by inspection was the reason given by 73 percent of the buyers who had favored products processed in plants having U.S.D.A. continuous inspection

In general, the last question showed that the small size No. 2 can moves best in the South, while in all other areas the large size, 46-ounce, can moves best for orange juice, grapefruit juice, and blends of the two juices. The No. 3, 46-ounce, can was most popular with the chains and the large volume buyers.

These five questions were selected from a schedule mailed out to wholesale-grocer and chain-store buyers as part of a broader study under the Research and Marketing Act of 1946 on wholesale buyer's attitudes toward citrus juices. The buyers replying represented 2,133 establishments which bought approximately 27.7 million cases of canned citrus juices of the 1946-47 pack, or approximately 50 percent of the total pack for that season.

As stated in a prior report, agricultural cooperatives are a major factor in the citrus industry, accounting for one-fourth of the processed citrus and more than one-half of the citrus sold fresh. Cooperatives have been quick to apply new and improved practices. The first plant to adopt U. S. Department of Agriculture continuous inspection was a cooperative. They, as well as other packers, can benefit from an application of the findings of this study. Many of the conclusions contained herein are just as significant for packers of other processed fruits and vegetables as for packers of citrus juices.



# WHOLESALE BUYERS' ATTITUDES TOWARD CITRUS JUICES

By

Harry C. Hensley and Anne L. Gessner  
Agricultural Economists

## Introduction

Citrus juice producers and processors now may have a more definite idea about what buyers want from the results of this study--second in a series of three reports analyzing replies received from chain-store and wholesale-grocer buyers of canned citrus juices for the 1946-47 season.

Replies to five questions show that on the whole these buyers of citrus juices depend largely upon taste and sight to determine quality, that about half of them prefer to distribute under their own labels and the other half under the packer's labels, that they most frequently use a combination of packer's sample and U. S. grade as a basis for buying, that about two-thirds of them favor products processed in plants having continuous inspection at the packer's plant by the U. S. Department of Agriculture, and that in all areas except the South the large, 46-ounce, can moves best.

Thus, a more complete picture of buyers' likes and dislikes has begun to show from this second report made as part of an over-all study under the Research and Marketing Act of 1946. The first report, released in January 1948, summarized suggestions of these buyers for expanding markets and increasing efficiency in distributing citrus juices in the United States. <sup>1/</sup> The third report, yet to be issued, will round out the picture on this phase of the study. It will cover the quantities and kinds of citrus juices delivered to wholesale-grocer and chain-store warehouses

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<sup>1/</sup> Hensley, Harry C., and Gessner, Anne L., Buyers' Suggestions for Expanding Markets and Improving Distribution of Citrus Juices, Misc. Report No. 114, Farm Credit Administration, U.S.D.A., Washington, D. C.

NOTE. - Acknowledgment is made of the fine cooperation of wholesale-grocer and chain-store buyers in supplying the information on which this study is based; of the assistance of the following staff members of the Cooperative Research and Service Division: M. C. Gay, K. B. Gardner, and J. K. Samuels, economists, for counsel in conducting the study; Rushia K. Owens, statistician, for statistical work; and Flossie Holt for handling the copy. Acknowledgment is also made of the graphic work by Sam Weinberg, Division of Information and Extension; and the assistance of H. R. Groo, Finance and Accounts Division, in preparing machine tabulations.

from each of the producing areas for the 1946-47 season and the reasons given for purchasing from the indicated areas. These three reports in turn will represent only one phase of a much broader study of merchandising products processed by horticultural cooperatives. 2/

Cooperatives play a leading role in the citrus industry since they account for one-fourth of the processed citrus and more than one-half of the citrus sold fresh. Packers of other processed fruits and vegetables can also find use for many of the results reported in this study.

### The Sample

The sample on which this study is based is, as sometimes happens in a mail questionnaire, weighted somewhat more by the larger chains and wholesale grocers, who may have responded more freely than the smaller establishments. 3/ The discussions that follow are significant if interpreted with these reservations in mind.

Figure 1 shows the total number of warehouses for which data have been supplied by county location for each of the three major types of buyers. As might be expected, the concentration shown in the figure is in the heavy population centers. Eleven of the larger chains with branch warehouses accounted for 132 of the chain warehouses located on the map. Similarly 14 of the large wholesale grocers with branch warehouses distributed to 157 out of the total of 2,049 wholesale warehouses in figure 1.

Figure 2 and table 1 show by geographic area the percentage of total number of cases of citrus juices purchased by chain and nonchain groups. Out of the total of approximately 27.7 million cases purchased by all types of buyers reporting in this survey, approximately 58 percent (15,920,136 cases) went to the chain-store warehouses. In number, this represented only 14 percent of the warehouses shown in figure 1. The remaining 42 percent of the citrus juice purchases reported were distributed to a total of 2,049 warehouses owned by the wholesale and cooperative wholesale groups and represented almost 86 percent of the total of 2,385 warehouses included in the survey.

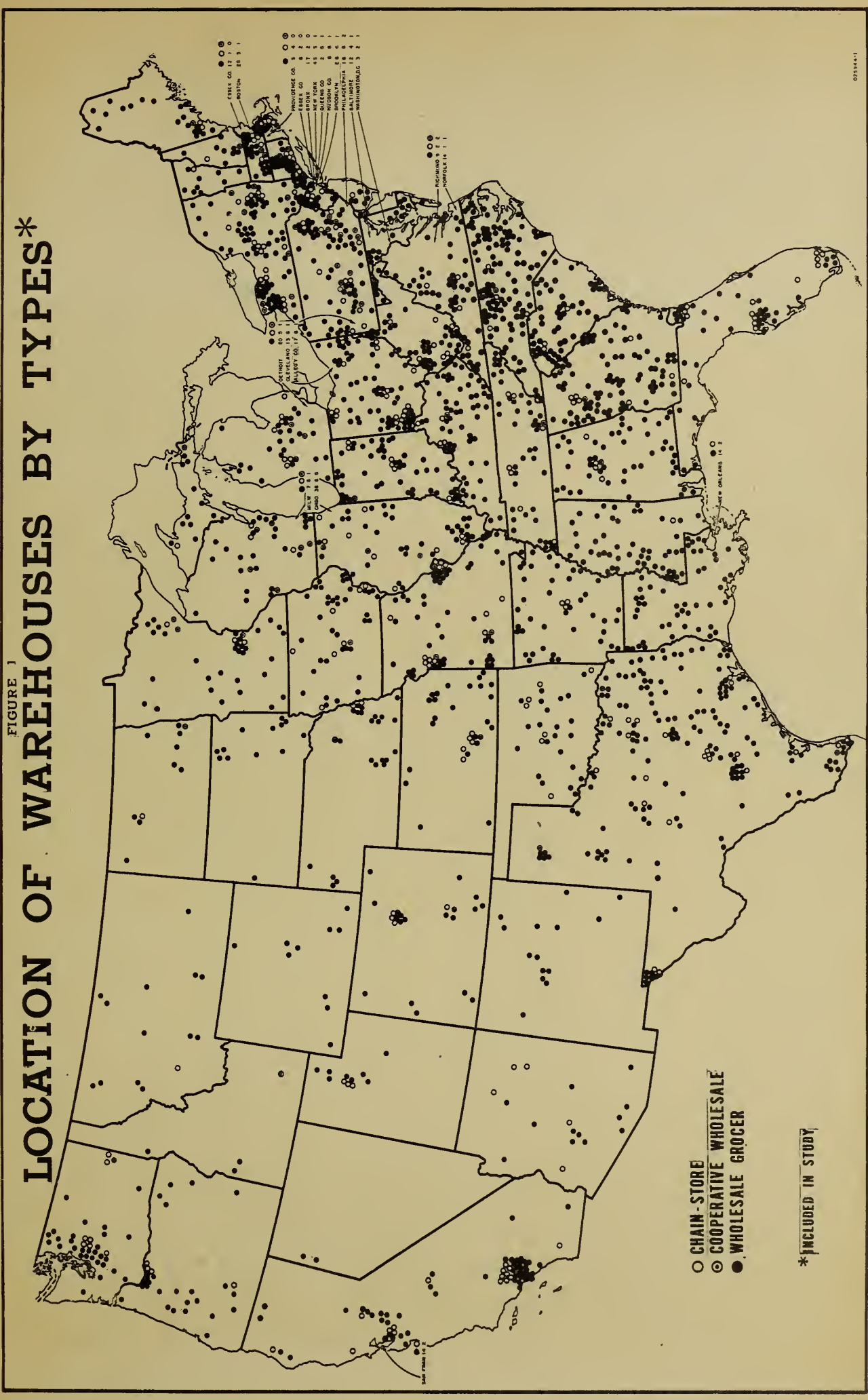
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2/ The major objectives of the over-all study were briefly summarized in Miscellaneous Report No. 114 as follows: (1) to examine the merchandising methods of cooperatives processing canned and frozen fruits and vegetables; (2) to analyze their distribution costs to determine wherein savings may be effected; (3) to obtain and analyze trade preferences for kinds, types, varieties, grades, and brands of products processed by cooperatives to serve as a basis of judgment for a better adjustment of production to trade and consumer demand; and (4) to recommend desirable and feasible changes for increasing marketing efficiency.

3/ Refer to the Appendix for a discussion of procedure and character of the sample.



FIGURE 1  
**LOCATION OF WAREHOUSES BY TYPES\***



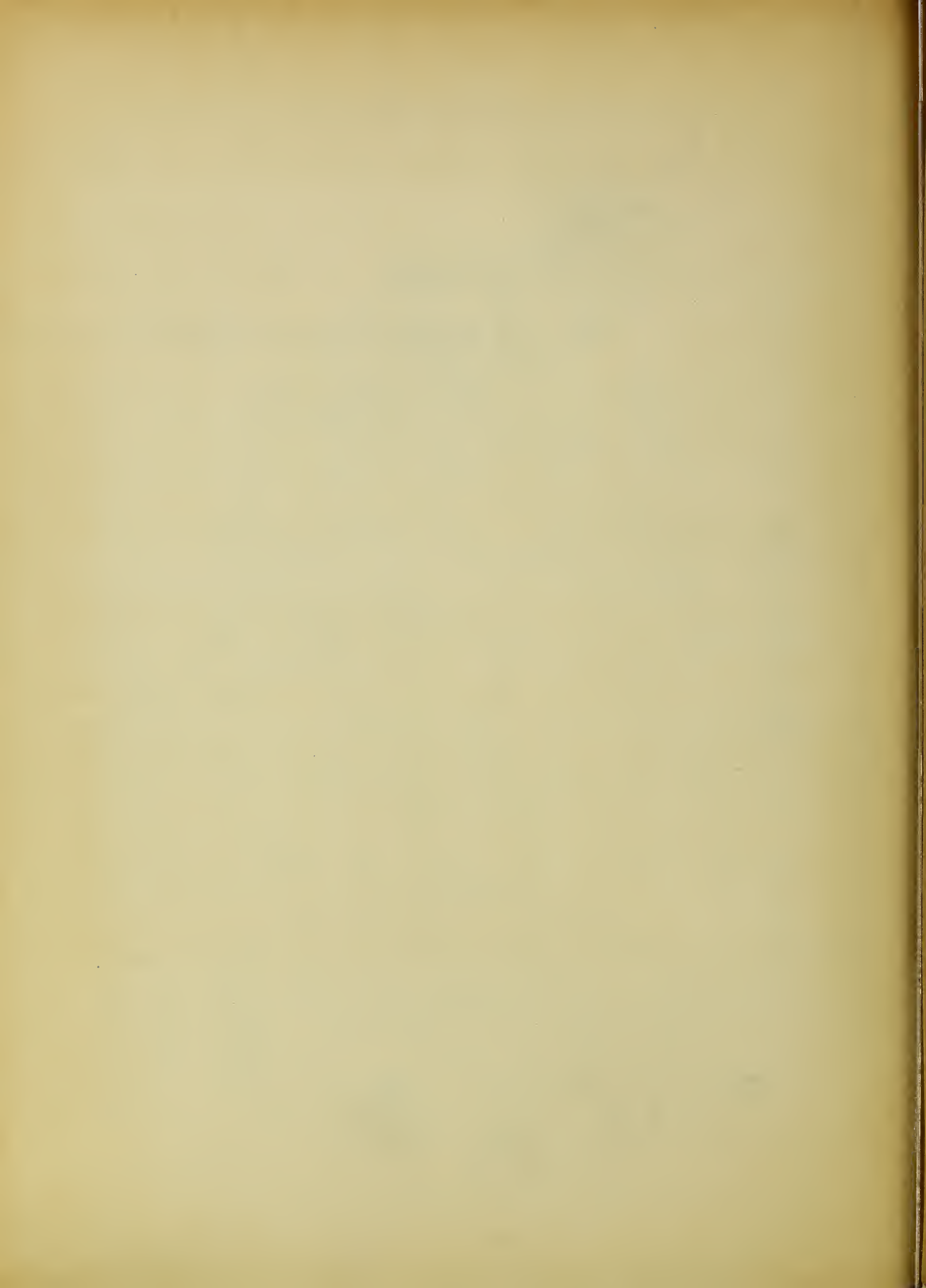


Table 1.- Warehouses and volume of citrus juice purchases, by geographic areas and types of buyers, 1946-47

Geographic area	Chain		Nonchain		All types	
	Number of:		Number of:		Number of:	
	warehouses:	Percent:	warehouses:	Percent:	warehouses:	Percent:
New England	29	17.4	138	82.6	167	100
Middle Atlantic	75	19.2	315	80.8	390	100
E. North Central	62	17.2	299	82.8	361	100
W. North Central	31	13.8	193	86.2	224	100
South Atlantic	48	10.1	428	89.9	476	100
E. South Central	17	8.1	193	91.9	210	100
W. South Central	32	10.2	281	89.8	313	100
Mountain	13	13.7	82	86.3	95	100
Pacific	29	19.5	120	80.5	149	100
Total	336	14.1	2,049	85.9	2,385	100

Geographic area	Chain		Nonchain		All types	
	Number		Number		Number	
	of cases	Percent	of cases	Percent	of cases	Percent
New England	1,869,356	73.1	686,259	26.9	2,555,615	100
Middle Atlantic	5,684,515	70.8	2,348,094	29.2	8,032,609	100
E. North Central	3,444,248	59.9	2,307,024	40.1	5,751,272	100
W. North Central	777,437	34.4	1,482,719	65.6	2,260,156	100
South Atlantic	1,608,363	54.8	1,326,833	45.2	2,935,196	100
E. South Central	381,969	36.8	656,737	63.2	1,038,706	100
W. South Central	665,909	39.0	1,042,319	61.0	1,708,228	100
Mountain	393,731	44.6	489,823	55.4	883,554	100
Pacific	1,094,608	43.3	1,430,740	56.7	2,525,348	100
Total	15,920,136	57.5	11,770,548	42.5	27,690,684	100



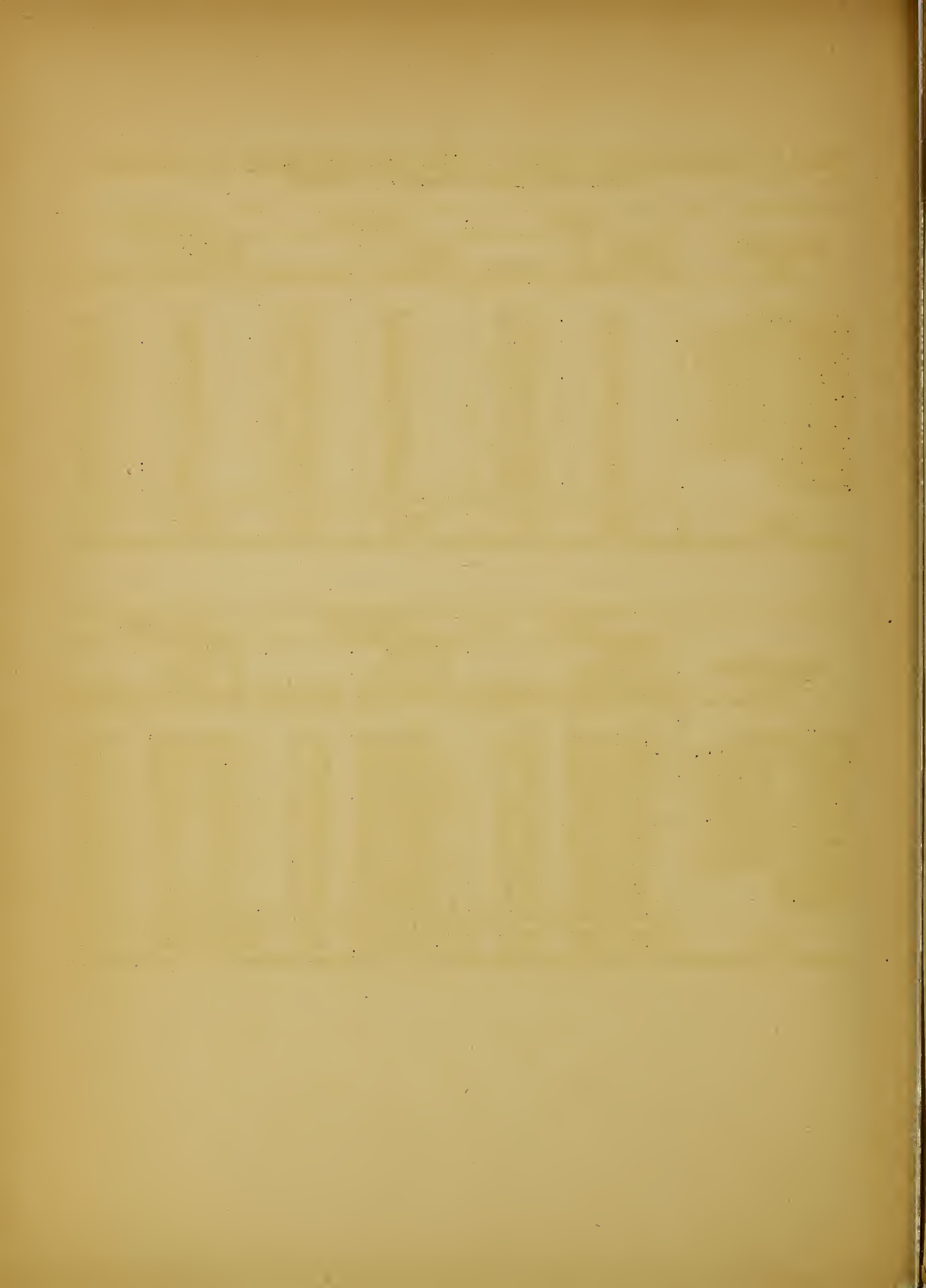
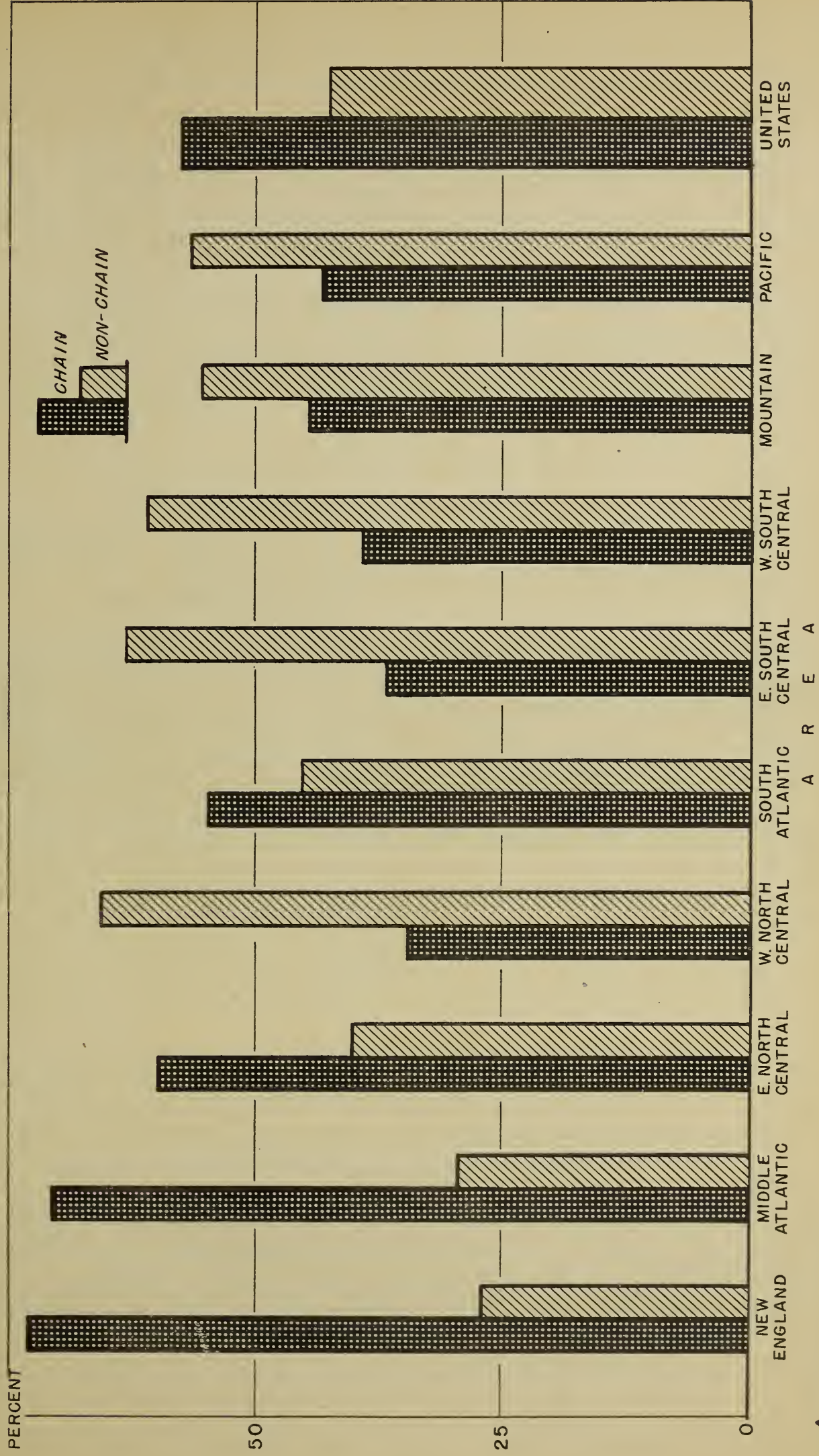


FIGURE 2  
VOLUME OF CITRUS JUICE PURCHASES BY GEOGRAPHIC  
AREA AND TYPES OF BUYERS, 1946-47▲







On an area basis, figure 2 indicates that chain-store buyers distributed close to three-fourths, or between 70 and 75 percent, of the purchases reported by buyers to less than a fifth, or 17.4 and 19.2 percent, respectively, of the warehouses in the New England and Middle Atlantic areas. In the East North Central and South Atlantic areas chain-stores distributed well over half of the citrus juice purchases reported in these areas, but the number of warehouses receiving these purchases accounted for only 17 and 10 percent, respectively, of the total number of warehouses shown for each of the areas.

When the purchases reported in this survey are analyzed on the basis of the average number of cases of citrus juices distributed to each warehouse by type, the data indicate that on an average 47,381 cases were distributed to each chain-store warehouse as compared with 5,745 cases to each nonchain warehouse.

#### QUESTIONS ASKED AND DATA OBTAINED

Question 2. Name in order of preference the principal factors of quality you look for in buying citrus juices.

Buyers are guided largely by their senses of taste and of sight in the quality factors they look for in purchasing citrus juices, according to these replies. The principal quality factors which influence buyers in purchasing canned citrus juices are taste (flavor) and color in the order named in figure 3, and in tables 2 and 3. Taste (flavor) was mentioned first in order of preference by 81 percent of the buyers when the sample included only those responding who confined their replies to clearly defined factors of quality. Moreover taste (flavor) was named uniformly first in order of preference by each type of buyer in each of the four volume classifications. It was mentioned first more frequently by the smaller buyers who purchased less than 25,000 cases than by those purchasing 25,000 cases or more. Other first mentions included sugar content (brix) 10 percent, color 4 percent, and consistency or clearness 3 percent.

Color was mentioned second in order of preference by 60 percent of the buyers. In the majority of cases, color was second, named in order of preference by each type of buyer in each volume classification. Other second mentions included consistency or clearness 15 percent, taste (flavor) 13 percent, and sugar content (brix) 7 percent.

The question, as phrased in the schedule, was not clearly understood by all those replying. This accounted for a variety of factors being mentioned, many of which, while buying factors, were not, strictly speaking, factors of quality. These other buying factors were segregated from the classification of factors which could clearly be regarded as quality factors.





FIGURE 3

# QUALITY FACTORS GIVEN FIRST AND SECOND MENTION BY CANNED CITRUS JUICE BUYERS, CLASSIFIED BY VOLUME OF PURCHASES, 1946-47

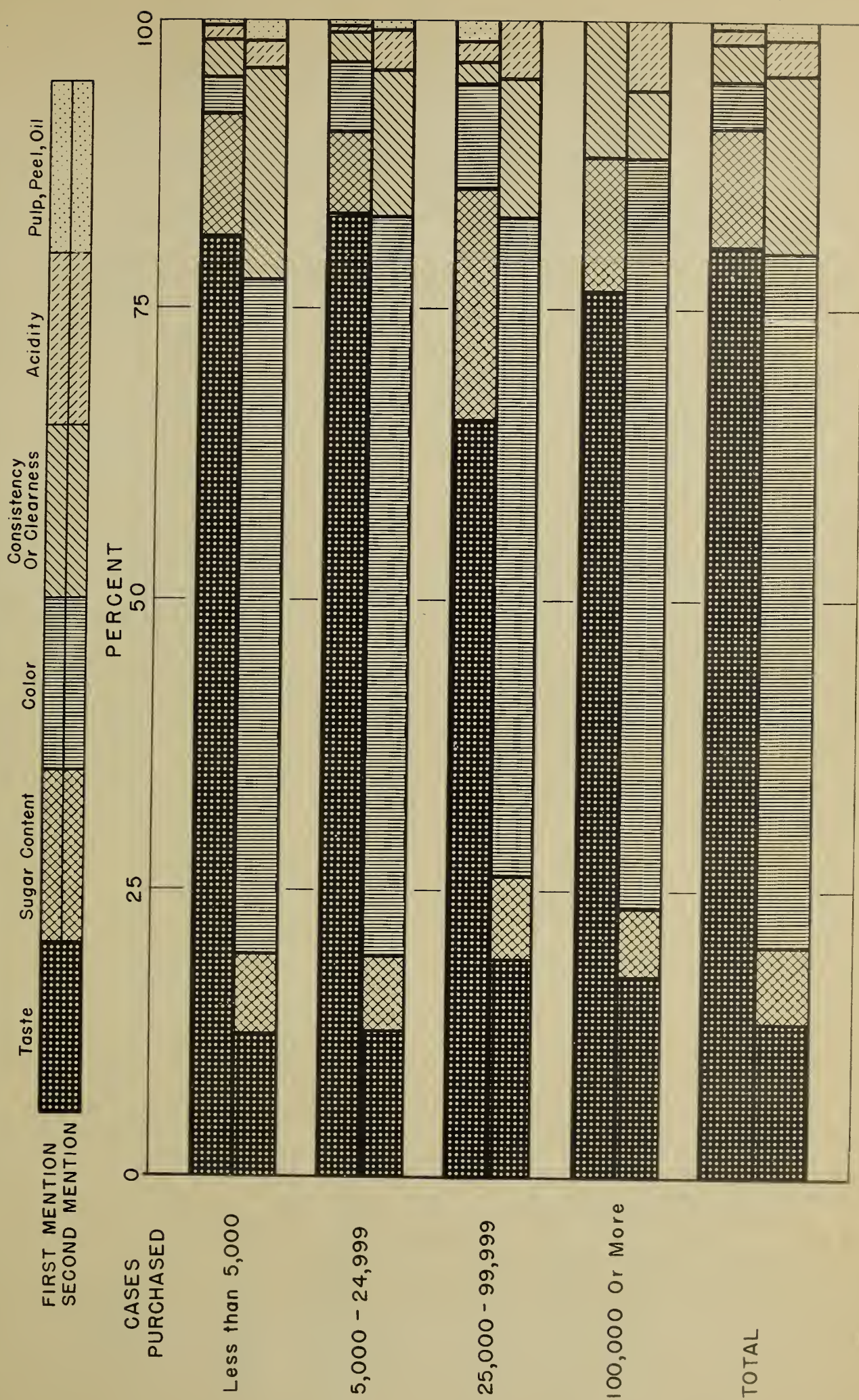






Table 2.— Quality factors given first and second mention by canned citrus juice buyers, classified according to types of buyers, 1946-47

Type of buyer	Sugar		Consistency:		Pulp,		Taste		Total
	content	(Brix)	or	clearness	Acidity	peel,	oil	(flavor)	
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber
<u>First Mention</u>									
Chain-store	14	17.1	0	-	0	-	65	79.2	82
Wholesale grocer	52	9.1	25	4.4	17	1.2	4	81.6	571
Cooperative wholesale:	6	15.8	5	13.1	2	5.3	0	25	38
Total	72	10.4	30	4.3	22	3.2	4	80.5	691
<u>Second Mention</u>									
Chain-store	5	8.8	31	54.4	10	17.5	1	10.5	57
Wholesale grocer	22	7.0	193	61.2	49	15.6	3	12.7	315
Cooperative wholesale:	0	-	18	60.0	3	10.0	1	26.7	30
Total	27	6.7	242	60.2	62	15.4	5	13.4	402

Table 3.- Quality factors given first and second mention by canned citrus juice buyers, classified by volume of purchases, 1946-47

Cases purchased	Sugar content (Brix)		Consistency: or clearness		Pulp, peel, oil		Taste (flavor)		Total					
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent						
<b>First Mention</b>														
Less than 5,000	45	10.6	13	3.1	14	3.3	5	1.2	2	.5	344	81.3	423	100.0
5,000 - 24,999	14	7.1	12	6.1	5	2.6	1	.5	1	.5	163	83.2	196	100.0
25,000 - 99,999	11	20.0	5	9.1	1	1.8	1	1.8	1	1.8	36	65.5	55	100.0
100,000 or more	2	11.8	-	-	2	11.8	-	-	-	-	13	76.4	17	100.0
Total	72	10.4	30	4.3	22	3.2	7	1.0	4	.6	556	80.5	691	100.0
<b>Second Mention</b>														
Less than 5,000	15	6.9	127	58.3	40	18.3	5	2.3	4	1.8	27	12.4	218	100.0
5,000 - 24,999	8	6.4	80	64.0	16	12.8	4	3.2	1	.8	16	12.8	125	100.0
25,000 - 99,999	3	7.2	24	57.1	5	11.9	2	4.8	-	-	8	19.0	42	100.0
100,000 or more	1	5.9	11	64.7	1	5.9	1	5.9	-	-	3	17.6	17	100.0
Total	27	6.7	242	60.2	62	15.4	12	3.0	5	1.3	54	13.4	402	100.0



Replies from 756 buyers who named other than individual quality factors in their replies are not included in tables 2 and 3. These buyers mentioned, in addition to individual quality factors, other factors in buying, such as (1) quality, brand and/or label; (2) period of pack and/or consistency of pack; (3) trade and/or consumer preference; and (4) all other factors, such as food value, price, service, section grown, and availability. Of these 756 buyers, 152 gave first mention and 49 gave second mention to taste (flavor). Five gave first mention and 44 gave second mention to color. Of the factors mentioned which were not individual quality factors, the greatest number mentioned quality, brand and/or label. It is quite clear that a number of buyers associate quality factors with individual brands or labels and hence think of the label as representing a standard of quality.

The individual quality factors which are classified under the headings shown in tables 2 and 3 were grouped as follows:

- (1) Sugar content (Brix) - Includes ripe fruit, tree ripe, fruit mature, sugar content, mellowness, gravity, bouquet, density.
- (2) Color - Includes appearance.
- (3) Consistency or clearness - Includes texture, body, consistency, clearness, clarity.
- (4) Acidity - Includes blending, acidity, less acid, not too sharp, absence of acid taste.
- (5) Pulp, peel, oil - Includes free from peel and oil; minimum pulp and rind; absence of rind taste; not too much rind oil.
- (6) Taste (flavor) - Includes taste, flavor, amount of tin flavor, palatability, absence of peel flavor; no tin taste.

The U. S. standards for grades of canned orange juice, canned grapefruit juice, and canned blended grapefruit juice and orange juice effective during the 1946-47 season were designed to establish certain standards of quality. They were (1) to faithfully represent the steps or differences in market value and (2) to bring about a uniform quality description in simple, easily understood terms upon which satisfactory trading can be effected. The standards were intended to serve as an aid in financing where warehouse receipts carrying U. S. grade designations are issued. Such receipts are particularly valuable because the holders of them have instruments which they may deposit with banks or other lending agencies as collateral for loans. The standards also serve as a basis for the inspection of the commodities by the Federal inspection service, a service available for inspection of other processed products as well.

Three grades were effective during the 1946-47 season, namely, U. S. Grade A, U. S. Grade C, and U. S. Grade D (substandard). These grade standards set forth certain requirements for brix, acid, and recoverable oil, and, in addition, the factors of color, absence of defects, and flavor. The maximum number of points that may be given for each factor under these standards in ascertaining the grade is given below:

	Points
I Color	20
II Absence of defects	40
III Flavor	40
Total score	100

Question 3. What proportion of the canned citrus juices you purchased during the 1946-47 season was packed under: (1) buyer's labels? \_\_\_\_%; (2) packer's labels? \_\_\_\_%.

Packers received good distribution under their own labels in the 1946-47 season, both in the chain and nonchain groups, with about an equal proportion of the canned citrus juices moving under buyer's labels and packer's labels.

Fifty-two percent of the canned citrus juices purchased in the 1946-47 season by 6 major chains was distributed under buyer's labels. These chains reported total purchases of 11,708,423 cases of citrus juices during the 1946-47 season, figure 4 and table 4. One of the chains reported all of its purchases were distributed under packer's labels. Five of the chains distributed from 15 percent to 68 percent under packer's labels. When total purchases were weighted by volume, this group distributed 52 percent under buyer's labels and 48 percent under packer's labels.

Table 4.- Proportion of canned citrus juices purchased under buyer's or packer's labels by chain-store buyers with a minimum volume of 500,000 or more cases, 1946-47 <sup>1/</sup>

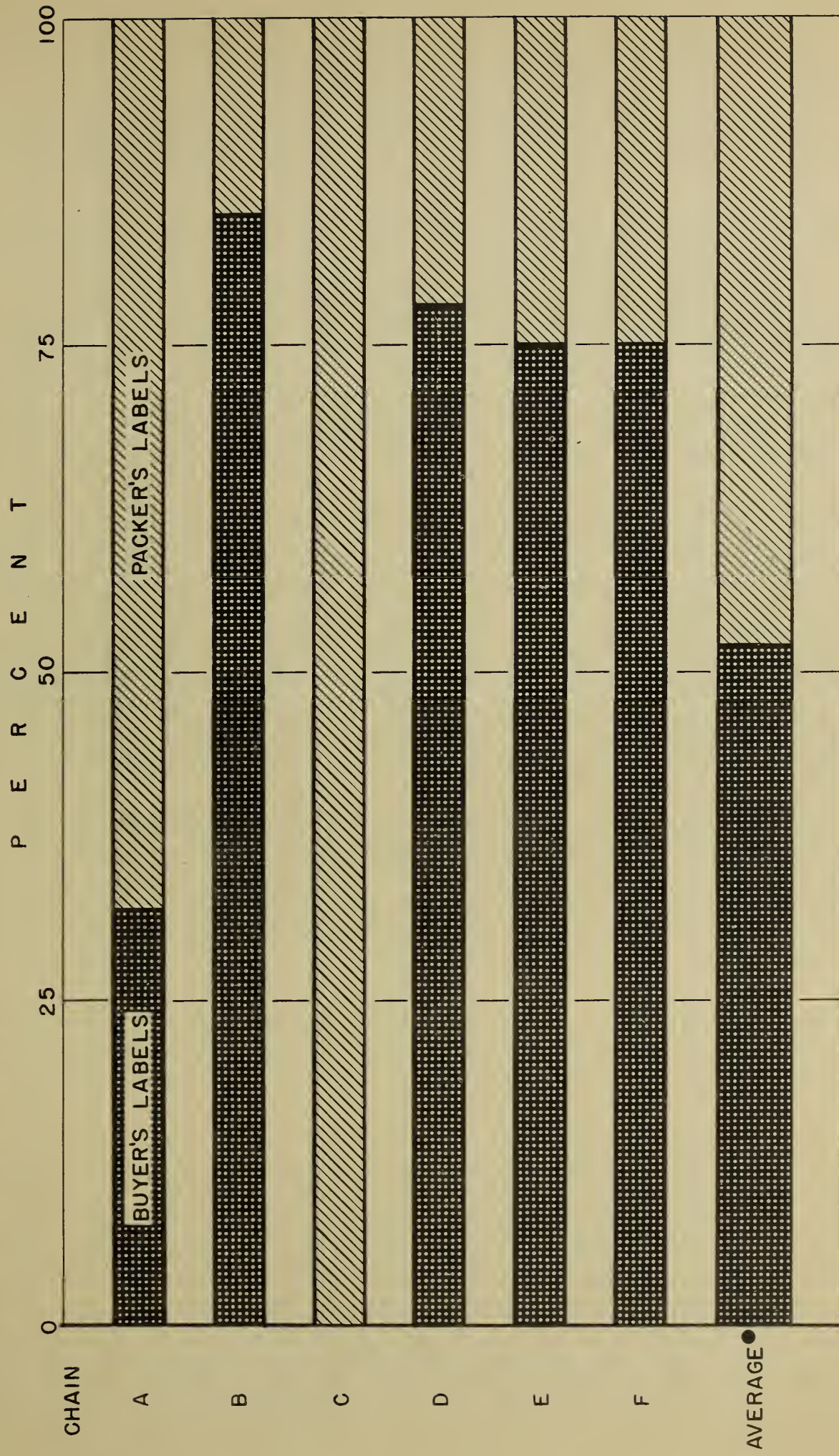
Chain-store	Percent purchased under -	
	Buyer's labels	Packer's labels
A	32	68
B	85	15
C	100	0
D	78	22
E	75	25
F	75	25
Average, weighted by volume	52	48

<sup>1/</sup> Total purchases of these six chains amounted to 11,708,423 cases of canned citrus juices in 1946-47



FIGURE 4

# PROPORTION OF CANNED CITRUS JUICES PURCHASED UNDER BUYER'S AND PACKER'S LABELS BY SIX LARGE CHAIN-STORE BUYERS, 1946-47▲



▲ TOTAL PURCHASES OF THESE SIX CHAINS AMOUNTED TO 11,708,423 CASES OF CANNED CITRUS JUICES IN 1946-47

● WEIGHTED BY VOLUME





Three of the chains were quite uniform about labels, each purchasing about three-fourths of its requirements under its own buyer's labels. There was no uniformity in the use of label by the other three chains. One purchased 85 percent of its requirements under buyer's labels, sometimes called sponsored brands, while one purchased none and another purchased about one-third.

The term "sponsored brands" refers to those an establishment owns and which it advertises and promotes. One chain has stated that it follows a policy of having its sponsored brands compete with other promoted brands for customer patronage on the basis of quality, price, and retail advertising and promotion. The policy is not to use the chain's position as a retailer to give its sponsored brands unfair preferred treatment over those of competing brands carried in its retail stores. Such a brand policy embraces (1) no substitution of sponsored brands for competitive brands; (2) competitive pricing, and (3) no "loss leaders."

An analysis of the responses made by all establishments reporting on their purchases by buyer's labels or packer's labels shows a tendency to favor packer's labels. A classification of replies from 1,817 firms stating the proportion purchased under packer's labels, showed that 1,408, or 78 percent, of the buyers purchased 100 percent of their requirements under packer's labels. See table 5. As would be expected, the smaller buyers reported purchasing a higher proportion under packer's labels. Eighty-five percent of the buyers in the class purchasing less than 5,000 cases distributed all of the product under packer's labels as compared to 37 percent in the class purchasing 100,000 or more cases.

A slightly higher percentage of chain-store buyers purchased 100 percent of their canned citrus juice requirements under packer's labels than other types of buyers. Eighty-one percent of the chains purchased all of their requirements under packer's labels as compared to 78 percent for wholesale grocers and 50 percent for the cooperative wholesales. See table 6.

A surprisingly low percent of all types of buyers - 25 percent - reported purchasing all their requirements under buyer's labels. Wholesale grocers led with 27 percent, while the chains ranked lowest with 12 percent.

Question 5. Check your juice purchasing methods: (1) Packer's Sample \_\_\_\_; (2) U. S. Grade \_\_\_\_; (3) Packer's Sample and U. S. Grade \_\_\_\_; (4) Packer's Grade \_\_\_\_; (5) Buyer's Specification \_\_\_\_; (6) Other \_\_\_\_; (7) Which method do you most frequently use?

---

Buyers did not to any great extent purchase solely on the basis of U. S. grades, but they did use U. S. grades in combination with other methods in specifying the product desired.

Table 5.- Proportion of canned citrus juices purchased under buyer's and packer's labels, by volume, 1946-47

		Less than 5,000		5,000 to 24,999		25,000 to 99,999		100,000 or more		Total all volume groups	
		cases		cases		cases		cases			
Percent	Buyer's	Packer's	Buyer's	Packer's	Buyer's	Packer's	Buyer's	Packer's	Buyer's	Packer's	
Num- Per- Num- Per- Num- Per- Num- Per- Num- Per- Num- Per-	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	Per- Num- Per-
ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent:	ber: cent: Num- Per-
Less than 20:	31: 11.4:	18: 1.4:	11: 5.8:	40: 9.3:	4: 6.5:	18: 23.7:	2: 9.5:	3: 15.8:	48: 8.8:	79: 4.3:	
20 to 39	39: 14.4:	37: 2.9:	28: 14.6:	40: 9.3:	3: 4.8:	9: 11.9:	2: 9.5:	3: 15.8:	72: 13.2:	89: 4.9:	
40 to 59	58: 21.4:	61: 4.7:	35: 18.2:	37: 8.6:	8: 12.9:	7: 9.2:	1: 4.8:	3: 15.8:	102: 18.7:	108: 5.9:	
60 to 79	36: 13.3:	38: 2.9:	30: 15.6:	32: 7.5:	4: 6.5:	2: 2.6:	5: 23.8:	- : - :	75: 13.7:	72: 4.0:	
80 to 99	28: 10.3:	38: 2.9:	59: 30.7:	14: 3.3:	23: 37.1:	6: 7.9:	3: 14.3:	3: 15.8:	113: 20.7:	61: 3.4:	
100	79: 29.2:	1,101: 85.2:	29: 15.1:	266: 62.0:	20: 32.2:	34: 44.7:	8: 38.1:	7: 36.8:	136: 24.9:	1,408: 77.5:	
Total	271: 100.0:	1,293: 100.0:	192: 100.0:	429: 100.0:	62: 100.0:	76: 100.0:	21: 100.0:	19: 100.0:	546: 100.0:	1,817: 100.0:	



Table 6.- Proportion of canned citrus juices purchased under buyer's and packer's labels, by types of buyers,  
1946-47

	Chain-store				Wholesale grocer				Cooperative wholesale				Total - all types			
Percent	Buyer's		Packer's		Buyer's		Packer's		Buyer's		Packer's		Buyer's		Packer's	
	label	Num-	label	Num-	label	Num-	label	Num-	label	Num-	label	Num-	label	Num-	label	Num-
	cent:	ber	cent:	ber	cent:	ber	cent:	ber	cent:	ber	cent:	ber	cent:	ber	cent:	ber
Less than 20	5	12.2:	7	3.8:	40	8.7:	64	4.1:	3	6.4:	8	10.5:	48	8.8:	79	4.3
20 to 39	10	24.3:	5	2.7:	56	12.2:	78	5.0:	6	12.8:	6	7.9:	72	13.2:	89	4.9
40 to 59	7	17.1:	9	4.8:	86	18.8:	86	5.5:	9	19.1:	13	17.1:	102	18.7:	108	5.9
60 to 79	7	17.1:	6	3.2:	58	12.7:	59	3.8:	10	21.3:	7	9.2:	75	13.7:	72	4.0
80 to 99	7	17.1:	8	4.3:	96	21.0:	49	3.2:	10	21.3:	4	5.3:	113	20.7:	61	3.4
100	5	12.2:	151	81.2:	122	26.6:	1,219	78.4:	9	19.1:	38	50.0:	136	24.9:	1,408	77.5
Total	41	100.0:	186	100.0:	458	100.0:	1,555	100.0:	47	100.0:	76	100.0:	546	100.0:	1,817	100.0

Although most buyers do not depend solely on U. S. grades, about one-half do depend to a greater or less extent on them. A classification of purchasing methods used by 1,892 buyers, showed a variety of methods with the combination of packer's sample and U. S. grade most generally used. Approximately 39 percent of the buyers reported use of this method as compared to 23 percent using packer's sample and 10 percent U. S. grade. See figure 5 and table 7. The distribution pattern for each of the purchasing methods was fairly uniform within each buying group, with no significant variations apparent.

A further classification was made showing purchasing methods most frequently used by a group of 527 buyers favoring products packed in plants having U.S.D.A. continuous inspection. This analysis showed that 14 percent purchased most frequently on the basis of U. S. grades, and these were the smaller buyers purchasing less than 25,000 cases. See table 8. This table indicates that while buyers in all volume groups most frequently purchased by packer's sample and U. S. grade combined, as a rule, the smaller buyers depend to a greater extent on U. S. grade alone than do larger buyers.

Question 6. In your purchasing, have you favored products processed in plants having U.S.D.A. continuous inspection? (Continuous Government inspection at the packer's plant as differentiated from Government inspection of samples) Yes\_\_\_\_; No\_\_\_\_.  
Explain \_\_\_\_\_

Buyer attitudes toward U.S.D.A. continuous inspection are favorable. About two-thirds of the 1,546 buyers responding to this question indicated that in their purchasing they had favored products processed in plants having U.S.D.A. continuous inspection. See figure 6 and table 9. The favorable response was comparatively uniform from every geographic area approximating two-thirds or more from each area except the Pacific where it fell to slightly less than one-half.

A higher percentage of small buyers favored products packed in plants having U. S. Department of Agriculture continuous inspection than was the case with large buyers. See table 10. Sixty-seven percent of buyers purchasing less than 5,000 cases preferred continuous inspection as compared to 52 percent of the buyers purchasing 100,000 or more cases. Of the total number of buyers responding to this question, 1,042, or 67 percent, purchased less than 5,000 cases as compared with 27, or 2 percent, purchasing 100,000 or more cases. While the number of buyers in the 100,000-or-more class is small, it contains some buyers purchasing a million or more cases.

When classified by type of buyer, the chains, 163 in number, and representing 11 percent of the total establishments reporting, purchased about 16 million cases or 62 percent of the total. See table 11. The chains, while favorable to continuous inspection, were slightly less



FIGURE 5

# PURCHASING METHODS USED BY CITRUS JUICE BUYERS BY TYPE OF BUYER, 1946-47

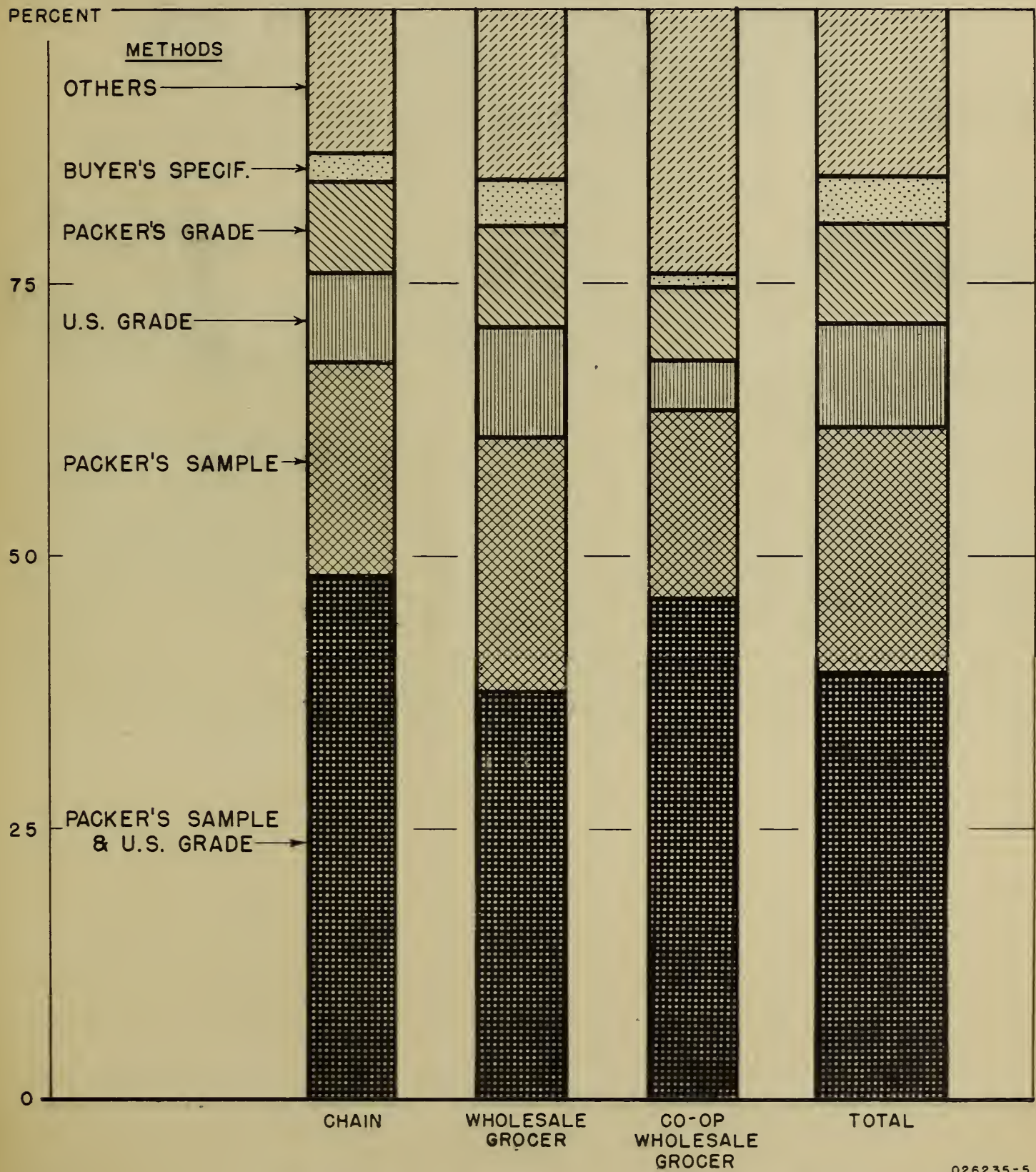






Table 7.- Purchasing methods used by citrus juice buyers by type of buyer, 1946-47

Method of purchase	Chain		Wholesale grocer		Cooperative: wholesale grocer		Total	
	Num-	Per-	Num-	Per-	Num-	Per-	Num-	Per-
	ber	cent	ber	cent	ber	cent	ber	cent
Packer's sample	36	19.7	377	23.3	15	17.2	428	22.6
U. S. grade	15	8.2	164	10.1	4	4.6	183	9.7
Packer's sample and U. S. grade	88	48.1	612	37.7	40	46.0	740	39.1
Packer's grade	15	8.2	151	9.3	6	6.9	172	9.1
Buyer's specification	5	2.7	73	4.5	1	1.1	79	4.2
Packer's sample and buyer's specification	3	1.6	22	1.4	4	4.6	29	1.5
Packer's sample, packer's grade, and buyer's specification	2	1.1	6	.4	1	1.1	9	.5
Packer's sample, U. S. grade, and buyer's specification	4	2.2	41	2.5	3	3.5	48	2.5
Packer's sample and packer's grade	3	1.6	44	2.7	4	4.6	51	2.7
Other	12	6.6	132	8.1	9	10.4	153	8.1
Total	183	100.0	1,622	100.0	87	100.0	1,892	100.0

Table 8.- Purchasing methods most frequently used by all types of citrus juice buyers favoring products processed in plants having U. S. Department of Agriculture continuous inspection, by volume of purchases, 1946-47

Method of purchase	: Less than: 5,000 to : 25,000 to:100,000 or:									
	: 5,000 :		: 24,999 :		: 99,999 :		: more :		: Total	
	cases		cases		cases		cases			
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
Packer's sample	86	24.3	27	19.7	6	22.2	1	11.1	120	22.8
U. S. grade	54	15.2	21	15.3	-	-	-	-	75	14.2
Packer's sample and U. S. grade	126	35.6	55	40.2	14	51.9	5	55.6	200	37.9
Packer's grade	18	5.1	5	3.7	-	-	-	-	23	4.4
Buyer's specification	22	6.2	8	5.8	2	7.4	2	22.2	34	6.5
Packer's sample and buyer's specification	1	.3	1	.7	1	3.7	-	-	3	.6
Packer's sample, U.S. grade, and buyer's specification	2	.6	1	.7	-	-	-	-	3	.6
Packer's sample and packer's grade	4	1.1	-	-	1	3.7	-	-	5	.9
Other	41	11.6	19	13.9	3	11.1	1	11.1	64	12.1
Total	354	100.0	137	100.0	27	100.0	9	100.0	527	100.0



Table 9.- Replies by geographic areas to the question: In your purchasing have you favored products processed in plants having U. S. Department of Agriculture continuous inspection? - 1946-47

Area	"Yes"		"No"		Total	
	replies		replies			
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
New England	74	65.5	39	34.5	113	7.3
Middle Atlantic	169	63.5	97	36.5	266	17.2
E. North Central	156	61.4	98	38.6	254	16.4
W. North Central	98	65.8	51	34.2	149	9.6
South Atlantic	211	67.2	103	32.8	314	20.3
E. South Central	84	65.6	44	34.4	128	8.3
W. South Central	128	69.9	55	30.1	183	11.9
Mountain	37	64.9	20	35.1	57	3.7
Pacific	39	47.6	43	52.4	82	5.3
Total	996	64.4	550	35.6	1,546	100.0



FIGURE 6

REPLIES TO THE QUESTION: IN YOUR PURCHASING HAVE YOU FAVORED  
PRODUCTS PROCESSED IN PLANTS HAVING USDA  
CONTINUOUS INSPECTION. 1946-47

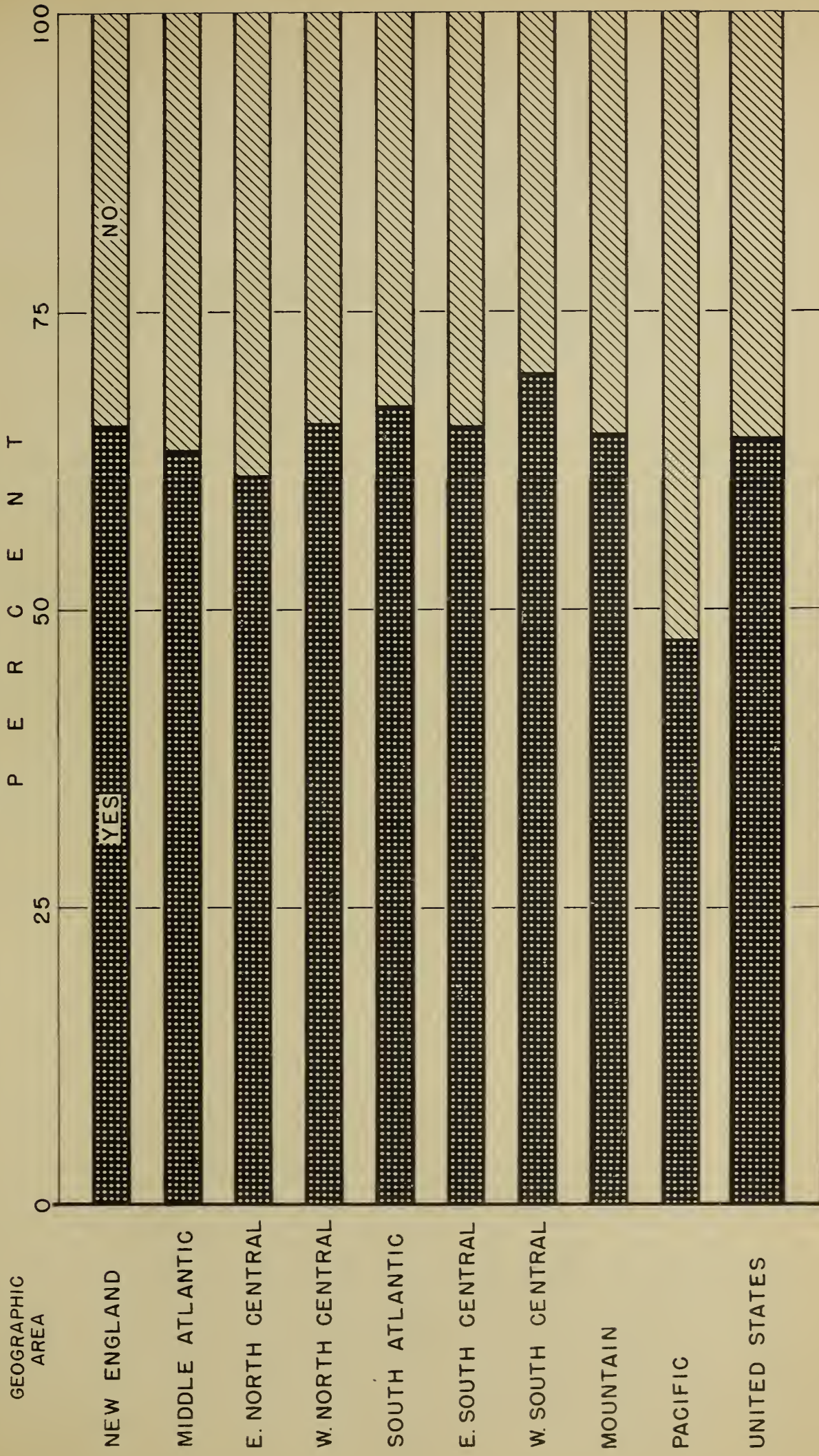






Table 10.- Replies by volume purchased to the question: In your purchasing have you favored products purchased in plants having U. S. Department of Agriculture continuous inspection? - 1946-47

Number of cases purchased	"Yes"		"No"		Total	
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
Less than 5,000	698	67.0	344	33.0	1,042	67.4
5,000 to 24,999	233	59.7	157	40.3	390	25.2
25,000 to 99,999	51	58.6	36	41.4	87	5.7
100,000 or more	14	51.9	13	48.1	27	1.7
Total	996	64.4	550	35.6	1,546	100.0



Table 11.- "Yes" and "No" replies, by type of buyer, to the question: In your purchasing have you favored products processed in plants having U. S. Department of Agriculture continuous inspection? - 1946-47

Type of buyer	"Yes"			Cases			"No"			Cases			Total			Total cases		
	Num-	Per-	cent	Num-	Per-	cent	Num-	Per-	cent	Num-	Per-	cent	Num-	Per-	cent	Num-	Per-	cent
	ber	:	:	ber	:	:	ber	:	:	ber	:	:	ber	:	:	ber	:	:
Chain-store	97	: 59.5	:	8,694,514	: 55.8	:	66	: 40.5	:	6,883,027	: 44.2	:	163	: 10.6	:	15,577,541	: 61.5	:
Wholesale grocer	854	: 65.0	:	4,971,058	: 57.7	:	459	: 35.0	:	3,640,003	: 42.3	:	1,313	: 84.9	:	8,611,061	: 34.0	:
Cooperative wholesale	45	: 64.3	:	658,276	: 58.3	:	25	: 35.7	:	470,332	: 41.7	:	70	: 4.5	:	1,128,608	: 4.5	:
Total	996	: 64.4	:	14,323,848	: 56.6	:	550	: 35.6	:	10,993,362	: 43.4	:	1,546	: 100.0	:	25,317,210	: 100.0	:

favorable than the wholesale grocers and cooperative wholesale grocers. About 65 percent of the latter two groups favored products processed in plants having U.S.D.A. continuous inspection as compared to about 60 percent for the chains.

It should be emphasized that when buyers indicated that in their purchasing they had not favored products processed in plants having U.S.D.A. continuous inspection, this is not to be interpreted as being unfavorable. It is assumed, from the way the question was phrased, that buyers would just as readily purchase products from plants not having continuous inspection as from those that have.

Assurance of quality and protection by inspection was the reason given by 73 percent of the buyers who favored products processed in plants having U.S.D.A. continuous inspection. See figure 7 and table 12. This reason easily ranked first in each of the geographic areas ranging from 50 percent in the East South Central to 83 percent in the South Atlantic. Buying or selling advantage was the reason ranking next. It was given by 9 percent of the buyers. Consumer preference ranked third with a standing of 6 percent.

Dependence upon the packer or the quality of his product was first among the reasons given by buyers who reported they had not favored products processed in plants having U. S. Department of Agriculture continuous inspection. Forty-one percent of the buyers under this classification gave this reason, while 12 percent stated that continuous inspection either was not considered better than other inspection or was not preferred by the trade. A surprisingly large number of buyers, some 8 percent, stated that they were unaware of the existence of the continuous inspection service, and many indicated an interest in learning more about the service. A description of this service is given below. Of the remainder, a wide variety of reasons were given for not preferring the service.

When classified according to volume of purchases, assurance of quality and protection easily led the reasons given in each of the volume classifications. See table 13. Likewise this reason was outstanding with each type of buyer.

#### Status of U.S.D.A. Continuous Inspection

U.S.D.A. continuous inspection is relatively new to a number of buyers. It was first introduced as an experiment in a canning plant of a cooperative association in 1939. As of July 15, 1947, 93 plants were approved to pack processed fruits and vegetables under continuous inspection, including 33, or about 23 percent, of all those which were packing citrus products. A total of 145 plants packing citrus products was listed in the 1947 Directory of the National Cannery Association.



The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done and the results obtained. The second part of the report deals with the details of the work done and the results obtained. It is a detailed account of the work done and the results obtained.

The third part of the report deals with the details of the work done and the results obtained. It is a detailed account of the work done and the results obtained. The fourth part of the report deals with the details of the work done and the results obtained. It is a detailed account of the work done and the results obtained.

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The ninth part of the report deals with the details of the work done and the results obtained. It is a detailed account of the work done and the results obtained. The tenth part of the report deals with the details of the work done and the results obtained. It is a detailed account of the work done and the results obtained.

The eleventh part of the report deals with the details of the work done and the results obtained. It is a detailed account of the work done and the results obtained. The twelfth part of the report deals with the details of the work done and the results obtained. It is a detailed account of the work done and the results obtained.

FIGURE 7

# REASONS GIVEN BY BUYERS WHO FAVORED PRODUCTS PROCESSED IN PLANTS HAVING USDA CONTINUOUS INSPECTION BY GEOGRAPHIC AREA, 1946-47

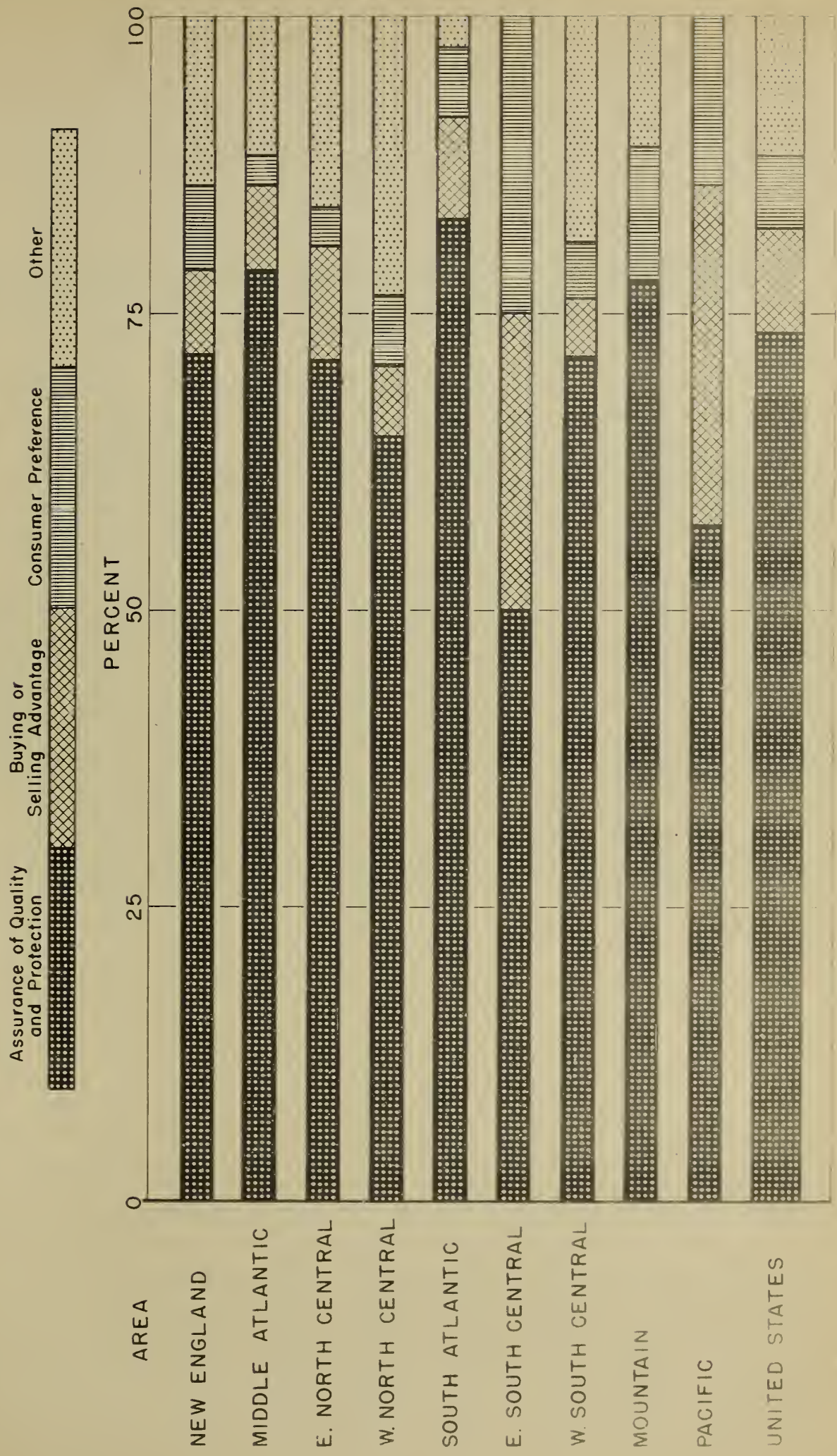






Table 12.- Reasons given by buyers who favored products processed in plants having U. S. Department of Agriculture continuous inspection, by geographic areas, 1946-47

Area	Buying or Assurance of:		Consumer:		selling quality and:		Other:		Total	
	preference:		advantage:		protection:		reasons:			
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
New England	1	7.1	1	7.1	10	71.5	2	14.3	14	100
Middle Atlantic	1	2.4	3	7.1	33	78.6	5	11.9	42	100
E. North Central	1	3.2	3	9.7	22	71.0	5	16.1	31	100
W. North Central	1	5.9	1	5.9	11	64.7	4	23.5	17	100
South Atlantic	2	5.7	3	8.6	29	82.9	1	2.8	35	100
E. South Central	2	25.0	2	25.0	4	50.0	-	-	8	100
W. South Central	1	4.8	1	4.8	15	71.4	4	19.0	21	100
Mountain	1	11.1	-	-	7	77.8	1	11.1	9	100
Pacific	1	14.3	2	28.6	4	57.1	-	-	7	100
Total	11	6.0	16	8.7	135	73.4	22	11.9	184	100

Table 13.- Reasons given by volume of purchases by buyers who favored products processed in plants having U. S. Department of Agriculture continuous inspection, 1946-47

Reason	: Less than :5,000 to 24,999:		25,000 to 99,999:		100,000 or:		Total	
	:5,000 cases:		cases		more cases:			
	:Num-:	Per-:	:Num-:	Per-:	:Num-:	Per-:	:Num-:	Per-:
	ber:	cent:	ber:	cent:	ber:	cent:	ber:	cent:
Consumer preferences:	9:	7.1:	2:	5.0:	-:	-:	11:	6.1
Buying or selling advantage:	12:	9.4:	3:	7.5:	-:	-:	15:	8.9
Assurance of quality and protection:	95:	74.8:	26:	65.0:	6:	100.0:	121 <sup>1/2</sup> :	72.8
Other:	11:	8.7:	9:	22.5:	-:	-:	20:	12.2
Total:	127:	100.0:	40:	100.0:	6:	100.0:	173 <sup>1/2</sup> :	100.0

<sup>1/2</sup> Does not include four purchasers who did not show volume of purchases.

Continuous inspection differs from the customary inspection service in that a Federal inspector of the U. S. Department of Agriculture is stationed continuously at the processing plant while the products are being prepared and packaged. Inspectors observe the product from its raw state through each step in receiving, preparing, processing, and packing, and make an inspection of the finished product for quality and condition. The service has grown in popularity with packers, distributors and consumers. The service is not mandatory and is granted upon request of the packer after the plant, its surroundings and operating conditions are inspected for suitability in accordance with the following general requirements:

"The plant property must be constructed properly so that walls and floors may be cleaned and maintained in a sanitary condition. Good ventilation and proper lighting must be assured for the employees.

"Screening of openings into certain processing rooms and other means to control insects are important requirements. An adequate supply of approved water must be available at all times for processing and thorough cleaning of the plant. Refuse from plant products and other sewage must be disposed of properly. Machinery and equipment must be arranged and covered to protect any food from contamination. Storage rooms must be maintained in a clean and orderly fashion and goods must be compactly stacked and warehoused under proper conditions of humidity and temperature. All of these prerequisites are necessary to maintain the good housekeeping standards of the Department.

"The processor agrees in his contract to reimburse the Department for the cost of the service. The money he pays goes into the United States Treasury." Questions and Answers on Government Inspection of Processed Fruits and Vegetables, Misc. Publication No. 598, U. S. Department of Agriculture, Production and Marketing Administration, Washington, D. C., April 1946.

Question 7. What can size moves best for: (1) Grapefruit \_\_\_\_\_  
(2) Orange \_\_\_\_\_ (3) Blend \_\_\_\_\_ (4) Lemon \_\_\_\_\_  
(5) Tangerine \_\_\_\_\_

The small-size, the Number 2, can moved best in the South, while in all other areas the large-size, the 46-ounce, can moved best for the major citrus juices. See figure 8 and table 14. For all types of buyers in all areas only two can sizes, the No. 2 and the No. 3, (46-ounce) sizes, were important in the movement of grapefruit, orange, and blended juices. These two sizes comprised 99 percent of all can sizes mentioned for each of the three types of citrus juices. When the replies are analyzed by area and type of buyer, however, some interesting differences may be noted.





FIGURE 8  
**REPLIES TO THE QUESTION: WHAT CAN SIZES MOVE BEST. 1946-47**

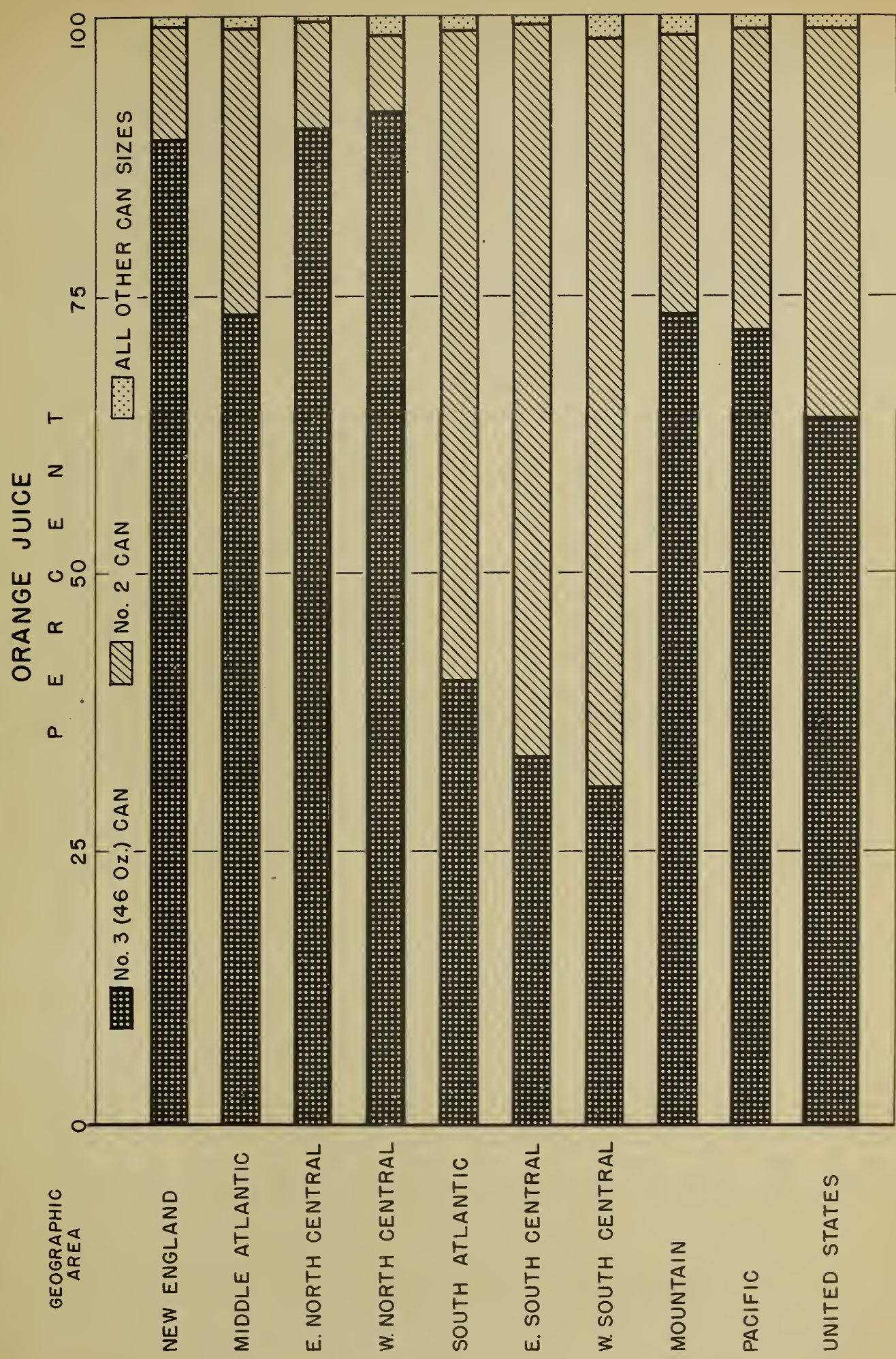






Table 14.- Replies by geographic areas to the question: What can sizes of grapefruit, orange, and blended juices move best? - 1946-47

No. 2 can										No. 3 (46-ounce) can									
Area	Grapefruit			Orange			Blended			Grapefruit			Orange			Blended			
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent			
New England	20	14.7	14	10.2	16	11.9	113	83.1	122	89.1	118	87.4							
Middle Atlantic	97	29.8	79	25.5	84	28.0	222	68.1	228	73.5	211	70.3							
E. North Central	31	10.3	28	9.6	22	7.8	268	89.3	264	90.1	259	91.8							
W. North Central	8	4.1	13	6.8	10	5.5	181	94.3	174	91.6	167	92.3							
South Atlantic	213	59.2	210	58.2	165	57.5	140	38.9	147	40.7	117	40.8							
E. South Central	105	64.8	107	65.6	84	67.2	56	34.6	55	33.8	39	31.2							
W. South Central	136	62.4	146	67.3	118	65.5	79	36.2	67	30.9	61	33.9							
Mountain	14	20.9	17	25.0	12	18.5	52	77.6	50	73.5	52	80.0							
Pacific	22	22.2	27	27.0	22	23.4	77	77.8	72	72.0	72	76.6							
Total	646	34.7	641	34.9	533	32.3	1,188	63.9	1,179	64.1	1,096	66.5							
All other can sizes										Total all can sizes									
Area	Grapefruit			Orange			Blended			Grapefruit			Orange			Blended			
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent			
New England	3	2.2	1	.7	1	.7	136	100	137	100	135	100							
Middle Atlantic	7	2.1	3	1.0	5	1.7	326	100	310	100	300	100							
E. North Central	1	.4	1	.3	1	.4	300	100	293	100	282	100							
W. North Central	3	1.6	3	1.6	4	2.2	192	100	190	100	181	100							
South Atlantic	7	1.9	4	1.1	5	1.7	360	100	361	100	287	100							
E. South Central	1	.6	1	.6	2	1.6	162	100	163	100	125	100							
W. South Central	3	1.4	4	1.8	1	.6	218	100	217	100	180	100							
Mountain	1	1.5	1	1.5	1	1.5	67	100	68	100	65	100							
Pacific	-	-	1	1.0	-	-	99	100	100	100	94	100							
Total	26	1.4	19	1.0	20	1.2	1,860	100	1,839	100	1,649	100							

On an area basis for all types, the South Atlantic, East South Central, and West South Central areas were consistent in showing the movement of No. 2's as more important for all three types of juices. In these three geographic areas, the importance of the smaller size frequently rated two to one. For grapefruit, the No. 2 percentages for the three areas, respectively, were 59, 65, and 62 compared to 39, 35, and 36 for the larger size; for orange juice, 58, 66, and 67 compared to 41, 34, and 31; and for blended juice, 58, 67, and 66 contrasted to 41, 31, and 34 for the 46-ounce can.

The movement of smaller sizes in the South Atlantic, East South Central, and West South Central areas may reflect consumer buying and use habits and preferences due to lower incomes, racial characteristics, differences in dietary considerations, and types of retail outlets.

An analysis of the data on can sizes on the basis of volume of purchases, indicates that a somewhat higher percentage of the larger volume buyers reported the 46-ounce can size moving best for grapefruit, orange, and blended juices. See table 15.

The volume groups analyzed were (1) less than 5,000 cases; (2) 5,000 to 24,999 cases; (3) 25,000 to 99,999 cases; and (4) 100,000 or more cases. Comparison for all types of buyers indicates that the percentages on the No. 3 can size for grapefruit juice were 57, 78, 85, and 92 on the basis of the volume groups listed above and in that order, while the percentage for all volume groups combined was 64. Similarly the percentages for orange juice on the No. 3 can size indicated an upward trend with increased volume, showing 58, 79, 84, and 81, respectively, for the four volume groups as compared to 64 percent for all volume groups combined. For blended juice, comparable percentages were 61, 76, 81, and 92 for the individual volume groups as compared to 67 percent for all volume groups combined.

A further analysis of replies by type of buyer for all areas reveals that chain-store and cooperative-wholesale buyers indicated a higher percentage in the movement of the larger, No. 3, size for each of the three types of juices than did the wholesale-grocer buyers. Chain-store buyers indicated for the No. 3 size, 81 percent for grapefruit juice, 74 percent for orange juice, and 76 percent for blended juice. This compared with 88 percent, 90 percent, and 90 percent for cooperative wholesale buyers, and 61 percent, 61 percent, and 64 percent for wholesale-grocer buyers.

It will be noted from table 16 that the movement of tangerine juice was generally in the smaller, No. 2, size, with 94 percent indicated in that size for all types and areas. Chain-store buyers in six of the nine geographic areas reported movement of the No. 2 size only, with no other can sizes mentioned. Tangerine juice is a newcomer among citrus juices and its introduction has been largely in the No. 2 size.



Table 15.- Replies by volume of purchases to the question: What can sizes of grapefruit, orange, and blended juices move best? - 1946-47

	Grapefruit juice					Orange juice					Blended juice							
	No. 2		No. 3		Other	No. 2		No. 3		Other	No. 2		No. 3		Other			
Number of cases purchased	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber			
Less than 5,000	526	41.0	736	57.3	22	1.7	523	41.4	728	57.6	13	1.0	408	37.6	665	61.2	13	1.2
5,000 - 24,999	92	21.2	339	77.9	4	.9	86	20.1	339	79.0	4	.9	95	22.5	321	76.1	6	1.4
25,000 - 99,999	13	15.1	73	84.9	-	-	13	14.5	76	84.4	1	1.1	16	18.2	71	80.7	1	1.1
100,000 or more	2	8.0	23	92.0	-	-	5	19.2	21	80.8	-	-	2	8.0	23	92.0	-	-
Total	633	34.6	1,171	64.0	26	1.4	627	34.7	1,164	64.3	18	1.0	521	32.2	1,080	66.6	20	1.2



Table 16.-- Replies by geographic areas to the question: What can sizes of tangerine and lemon juices move best?--  
1946-47

Area	Tangerine juice										Lemon juice									
	No. 2					No. 3					All					Total				
	:(46-ounce): can sizes:					:(46-ounce): can sizes:					:(46-ounce): can sizes:					:(46-ounce): can sizes:				
	Num-:	Per-:	Num-:	Per-:	Num-:	Per-:	Num-:	Per-:	Num-:	Per-:	Num-:	Per-:	Num-:	Per-:	Num-:	Per-:	Num-:	Per-:	Num-:	Per-:
	ber:	cent:ber	ber:	cent:ber	ber:	cent:ber	ber:	cent:ber	ber:	cent:ber	ber:	cent:ber	ber:	cent:ber	ber:	cent:ber	ber:	cent:ber	ber:	cent:ber
New England	68	94.4:	3	4.2:	1	1.4:	72	100:	50:64.1:	10	12.8:	7	9.0:	11	14.1:	78	100			
Middle Atlantic	176	94.1:	8	4.3:	3	1.6:	187	100:	102:57.3:	23	12.9:	19	10.7:	34	19.1:	178	100			
E. North Central	153	93.9:	8	4.9:	2	1.2:	163	100:	76:45.0:	13	7.7:	36	21.3:	44	26.0:	169	100			
W. North Central	72	96.0:	2	2.7:	1	1.3:	75	100:	18:20.9:	6	7.0:	40	46.5:	22	25.6:	86	100			
South Atlantic	139	97.2:	2	1.4:	2	1.4:	143	100:	16:30.2:	5	9.4:	12	22.7:	20	37.7:	53	100			
E. South Central	69	94.5:	1	1.4:	3	4.1:	73	100:	12:42.9:	-	-	7	25.0:	9	32.1:	28	100			
W. South Central	59	93.6:	3	4.8:	1	1.6:	63	100:	35:43.2:	9	11.1:	15	18.5:	22	27.2:	81	100			
Mountain	38	86.4:	4	9.1:	2	4.5:	44	100:	10:24.4:	3	7.3:	20	48.8:	8	19.5:	41	100			
Pacific	49	92.4:	1	1.9:	3	5.7:	53	100:	34:50.0:	3	4.4:	21	30.9:	10	14.7:	68	100			
Total	823	94.3:	32	3.7:	18	2.0:	873	100:	353:45.2:	72	9.2:	177	22.6:	180	23.0:	782	100			

Can sizes for lemon juice, see table 16, have not been as well standardized as for the other types of citrus juices. The 5-ounce can appears to be the most popular, showing 45 percent for all areas and types of buyers. Ranking next is the 8-ounce can with 23 percent, followed by the 6-ounce can with 9 percent of all can sizes mentioned for this product. The lack of standardization is reflected in the high percentage indicated for all other sizes, which accounted for almost a fourth of the replies for all types of buyers in all geographic areas.

- 0 -

This second report in a series has given in brief some of the wholesale buyers' attitudes toward citrus juices. The third and last in the series will complete this particular survey with a report on quantities, kinds, and types of citrus juices delivered to wholesale-grocer and chain-store warehouses from each of the three major producing areas for the 1946-47 season.



Appendix

PROCEDURE AND CHARACTER OF THE SAMPLE

Questionnaire Mailed

The schedule reproduced on the final page of this report was carefully developed in consultation with economists in the U. S. Department of Agriculture and staff members of agricultural colleges in the citrus areas. It was reviewed by citrus juice processors, and after being given a field test in Baltimore, Md., was revised and processed for mailing. Personal calls were made on a number of the larger chains and wholesale grocers to enlist their full cooperation in the study. On November 3, 1947, the citrus juice survey schedule with a letter of transmittal was mailed to a list of chain-store and wholesale-grocer buyers compiled from Thomas' Wholesale Grocery and Kindred Trades Register, 1947. Total mailing included 701 chain-store buyers; 5,377 independent wholesale-grocer buyers; <sup>1/</sup> and 218 cooperative wholesale buyers.

Chain-Store Buyers: The 701 chain-store buyers receiving the schedule represented chains of small, medium, and large size. The latter group included the national and regional chains.

Wholesale-Grocer Buyers: Included in the composite group of 5,377 wholesale-grocer buyers receiving the schedule were "full-line" service, "voluntary group," "cash-and-carry," and "institutional" wholesalers. <sup>2/</sup>

Cooperative Wholesale Buyers: The 218 buyers classified under this heading represented retailer-owned cooperative wholesalers. "Such organizations are owned cooperatively by affiliated groups of retail grocer stockholders, who then purchase considerable portions of their supplies from their own wholesale warehouse, managed and operated by personnel hired for that purpose. At stated periods, subject to earnings, the retail stockholders then receive dividends based upon their purchase volume. Retailer-owned cooperatives often combine the full-line, cash-and-carry, and voluntary-group characteristics mentioned previously. While these cooperative wholesaler-retailers represent,

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<sup>1/</sup> Of the 5,377 independent wholesale-grocer buyers, 3,906 were classified by Thomas' Register under Definition A and 1,471 under Definition B. Wholesale - Definition A includes those buyers for organizations whose business, in addition to complying with certain other conditions, is substantially wholesale to the extent that no sales are made direct to consumers. Included in the supplementary group under Definition B are those wholesalers who did not meet all of the requirements for Definition A.

<sup>2/</sup> Mockler, A. E., The Wholesale Grocery Industry, Bellman Publishing Co., Inc., Boston, Mass., 1947.



in the aggregate, a comparatively small percentage of the total annual dollar volume of sales in the wholesale grocery industry, they have been increasing their activities in recent years." 3/

#### Schedules Returned

Out of the total mailing of 6,296 schedules, usable replies were received from 2,133 establishments, or a third of the total to whom the schedule was mailed. These are broken down as follows: 1,830 wholesale-grocer buyers; 209 chain-store buyers; and 94 cooperative-wholesale buyers. The 2,133 schedules do not represent total returns, as a large number of replies were received which were not usable. In some instances, schedules returned represented duplicate figures from branch offices which had been included in the data submitted by the head office. Such duplications were eliminated wherever detected by including in the tabulations compiled on a national basis only the schedule submitted by the main office. This, of course, reduced the number of schedules actually used. Also, a sizable number of the schedules returned indicated the organizations were not purchasing citrus juices; some of these had never included citrus juices in their operations, while others had temporarily suspended the purchase of citrus juices due to unusually large carry-overs from their 1945-46 purchases.

A test of the sample was made by selecting one State in each of the nine geographic areas and analyzing the returns for each of the three major types of buyers--chain-store, wholesale-grocer, and cooperative-wholesale. Table 1 shows the percentage of schedules returned and the percentage of usable schedules, by type of buyer. It is based on the total number of schedules mailed in certain States considered to be representative of the total sample.

The data in this table indicate that the percentage of usable schedules returned by each type of buyer, based on the percentage of total schedules mailed, is fairly uniform on an average basis for all types, but not as to individual types, and with the possible exception of the Mountain area may be regarded as a satisfactory sample for the purpose of this report. The sample, when analyzed on a volume basis, is weighted somewhat by the larger chains and wholesale grocers. These larger establishments, as sometimes happens with a mail questionnaire, may have responded more freely than the smaller establishments. This may also have been influenced by the personal calls staff members made on the heads of many of the larger establishments. The data are significant if interpreted with these reservations in mind, particularly since the sample on a volume basis represents 50 percent or more of the 1946-47 pack of citrus juices.

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3/ See footnote 2.



Table 1.- Sample test of citrus juice schedules, by geographic areas

Location and type of buyer	Total		Schedules returned:		Usable schedules	
	number of:		Percent		Percent	
	schedules:		of total		of total	
	mailed	Num- ber	mailed	ber	mailed	returned
<u>Massachusetts (New England):</u>	:	:	:	:	:	:
Chain-store	26	16	62	13	50	81
Wholesale grocer	133	72	54	64	48	89
Cooperative wholesale	11	5	45	3	27	60
Total	170	93	55	80	47	86
<u>New York (Middle Atlantic):</u>	:	:	:	:	:	:
Chain-store	63	35	56	29	46	83
Wholesale grocer	419	227	54	165	39	73
Cooperative wholesale	23	12	52	11	48	92
Total	505	274	54	205	41	75
<u>Michigan (E. North Central):</u>	:	:	:	:	:	:
Chain-store	22	11	50	8	36	73
Wholesale grocer	143	70	49	57	40	81
Cooperative wholesale	9	5	56	5	56	100
Total	174	86	49	70	40	81
<u>Minnesota (W. North Central):</u>	:	:	:	:	:	:
Chain-store	8	3	38	2	25	67
Wholesale grocer	76	36	47	29	38	81
Cooperative wholesale	7	3	43	3	43	100
Total	91	42	46	34	37	81
<u>Maryland (South Atlantic):</u>	:	:	:	:	:	:
Chain-store	4	4	100	1	25	25
Wholesale grocer	51	34	67	28	55	82
Cooperative wholesale	3	3	100	2	67	67
Total	58	41	71	31	53	76
<u>Tennessee (E. South Central):</u>	:	:	:	:	:	:
Chain-store	11	5	45	4	36	80
Wholesale grocer	117	52	44	41	35	79
Cooperative wholesale	3	2	67	2	67	100
Total	131	59	45	47	36	80
<u>Texas (W. South Central):</u>	:	:	:	:	:	:
Chain-store	36	16	44	13	36	81
Wholesale grocer	276	129	47	116	42	90
Cooperative wholesale	2	2	100	2	100	100
Total	314	147	47	131	42	89
<u>Montana (Mountain):</u>	:	:	:	:	:	:
Chain-store	4	4	-	-	-	-
Wholesale grocer	29	13	45	11	38	85
Cooperative wholesale	2	1	50	1	50	100
Total	35	14	40	12	34	86
<u>Washington (Pacific):</u>	:	:	:	:	:	:
Chain-store	10	4	40	4	40	100
Wholesale grocer	54	27	50	19	35	70
Cooperative wholesale	5	2	40	1	20	50
Total	69	33	48	24	35	73



UNITED STATES DEPARTMENT OF AGRICULTURE  
FARM CREDIT ADMINISTRATION  
WASHINGTON 25, D. C.

November 3, 1947

Dear Sir:

Citrus growers and their industry are seeking the answers to some urgent problems. You, as a buyer, can help the Department of Agriculture report to growers and processors through their organizations what needs to be done about some of these problems as you see them. If you will take a few minutes of your time to answer the questions on the enclosed form, I will pass along a summary of the replies, not revealing the identity of your firm.

Two copies of the form are enclosed so that you may retain a working copy for your files. There are, in all, eleven questions which I hope you will answer on the basis of your experience. Your prompt reply will help make it possible for citrus growers and canners to adjust their operations so as to give you and your customers more nearly what is wanted in citrus juices.

Please indicate in the space provided on the enclosed form, if you wish us to send you a copy of the report when it is available. For your convenience in making an early reply, I am enclosing a self-addressed envelope which requires no postage.

Very truly yours,

*Harry C. Hensley*

Harry C. Hensley  
Principal Agricultural Economist

Enclosures





RESEARCH AND MARKETING ACT OF 1946  
CONFIDENTIAL CITRUS JUICE SURVEYBUDGET BUREAU  
NO. 40-4749  
APPROVAL EXPIRES  
DECEMBER 31, 1947When Completed Return to  
Farm Credit Administration, U.S.D.A.  
Cooperative Research and Service Division  
Washington 25, D. C.

1. Please fill in below the approximate number of cases of canned single-strength citrus juice of each kind and type you purchased during the 1946-47 season which came from each of the leading citrus States:

KIND AND TYPE OF CITRUS JUICE	APPROXIMATE NUMBER OF CASES PURCHASED FROM			REASONS FOR PURCHASING FROM STATE(S) INDICATED
	FLORIDA	TEXAS	CALIF. ARIZONA	
GRAPEFRUIT:	SWEETENED			
	UNSWEETENED			
ORANGE:	SWEETENED			
	UNSWEETENED			
BLEND:	SWEETENED			
	UNSWEETENED			
LEMON:	SWEETENED			
	UNSWEETENED			
TANGERINE:	SWEETENED			
	UNSWEETENED			

2. Name in order of preference the principal factors of quality you look for in buying citrus juices. \_\_\_\_\_
3. What proportion of the canned citrus juices you purchased during the 1946-47 season was packed under: (1) buyer's labels? \_\_\_\_\_%; (2) packer's labels? \_\_\_\_\_%.
4. Names of the three principal brands purchased in 1946-47 would be appreciated if you can readily supply them: (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_.
5. Check your juice purchasing methods: (1) Packer's Sample \_\_\_\_\_; (2) U.S. Grade \_\_\_\_\_; (3) Packer's Sample and U.S. Grade \_\_\_\_\_; (4) Packer's Grade \_\_\_\_\_; (5) Buyer's Specification \_\_\_\_\_; (6) Other \_\_\_\_\_, (7) Which method do you most frequently use? \_\_\_\_\_
6. In your purchasing, have you favored products processed in plants having U.S.D.A. Continuous Inspection? (Continuous Government inspection at the packer's plant as differentiated from Government inspection of samples) Yes \_\_\_\_\_; No \_\_\_\_\_. Explain \_\_\_\_\_
7. What can size moves best for: (1) Grapefruit \_\_\_\_\_ (2) Orange \_\_\_\_\_ (3) Blend \_\_\_\_\_ (4) Lemon \_\_\_\_\_ (5) Tangerine \_\_\_\_\_
8. Do you purchase citrus juice concentrates? Yes \_\_\_\_\_; No \_\_\_\_\_. If so, indicate approximate quantities (and units) purchased in 1946-47 from:

	CANNED CONCENTRATE OR BASE			FROZEN CONCENTRATE		
	FLORIDA	TEXAS	CAL.-ARIZ.	FLORIDA	TEXAS	CAL.-ARIZ.
ORANGE.....						
GRAPEFRUIT...						
LEMON.....						

9. Do you purchase any frozen single strength citrus juices? Yes \_\_\_\_\_; No \_\_\_\_\_. If so, indicate kind, quantity, (also units), and the State(s) from which purchased in 1946-47. \_\_\_\_\_
10. How can the markets be expanded for citrus juices? (Use reverse side or separate sheet for reply.) \_\_\_\_\_
11. Give us your ideas for increasing efficiency in distribution of citrus juices (use reverse side or separate sheet for reply.) \_\_\_\_\_
- Firm name \_\_\_\_\_ Address \_\_\_\_\_
- Your name \_\_\_\_\_ Title \_\_\_\_\_
- Do you wish us to mail you a summary of the reports received? Yes \_\_\_\_\_; No \_\_\_\_\_.

